



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

December 19, 1988

Jack Horner  
Horner Creative Products, Inc.  
413 State Park Drive  
Bay City, Michigan 48708-1338

Dear Mr. Horner:

This is in response to your letter to Ron Brand requesting a clarification of SPA's Final regulation for underground storage tanks as they apply to the "threshold value" for declaring a tank, system to be leaking using a precision tightness test. I understand there is some confusion on this issue. My response below is intended to clarify this matter.

To provide more clarity on this question. some background information is necessary," The Agency's tank testing results from the Edison, New Jersey Laboratory show that tank test results are affected by a large number of variables including temperature, tank deformation, vapor pockets, and other factors. Thus, even with a good method, several consecutive tests rarely yield identical results because of the interference or these variables, For example, if a large number of tests were conducted on non-leaking tanks, most of the test results would be close to zero but a few might be a good deal larger or smaller than zero. Therefore, if a tank leaking at exactly 0.1 gph was tested many times, the results would tend to be normally distributed around 0.1 gph. Some Of the measurements for a non-leaking tank may exceed those (or a leaking tank). The attached diagram illustrates this statistical reality.

When a tester goes in the field and conducts a test. as a service to the customer he must be able to make an informed decision about whether or not the tank is leaking. Usually this is done by comparing the test result to a threshold value, traditionally 0.05 gph. To be able to detect a 0.1 gph leak as required in the regulation (at a statistically reliable level of confidence) the threshold must be smaller than 0.1 gph. The correct threshold to meet the regulation depends on the test method. but if the results are distributed evenly (as shown in the illustration attached), the correct threshold is 0.05

gph Thus, the only difference between the regulation and the existing industry practice (NFPA 329) is that the regulation more clearly establishes that at this threshold only leaks of 0.1 gph and greater will be reliably detected. As is noted in the preamble to the regulations (53 FR 37145), a threshold value of 0.05 gph should be used unless the manufacturer has determined a different threshold value for his particular method.

I hope this has provided the clarification you need. If you have further questions please contact Tom Young directly at 202-475-7261.

Sincerely,

Jim McCormick, Director  
Policy & Standards Division  
Office of Underground Storage Tanks

cc: Gerald Phillips, Region 5 Program Manager